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Southern Pine Beetle Fact Sheet Number 4

AN AERIAL OBSERVER'S GUIDE TO RECOGNIZING AND REPORTING SOUTHERN PINE BEETLE SPOTS

Early detection of new infestations is the first step in suppression of the southern pine beetle. Detection of new infestations over large tracts of pine forest or over a group of smaller tracts can be accomplished through periodic aerial surveys. Dying pines are recognizable from the air as the foliage progressively changes from green to a lighter green, fading yellow to red and eventually dropping to the ground, leaving the attacked trees bare of foliage. This process may take from a few weeks to several months depending on the season of the year, weather, geographic region and other factors.

Infestations may occur as single trees or as a group containing several thousand trees. There are other conditions such as fire, needle cast, herbicides, other bark beetles, etc., that can be confused with southern pine beetle infestations, but as aerial observers become experienced they can distinguish southern pine beetles from these other occurrences.

Aerial surveying is tedious work, especially when observers are finding a large number of suspected infestations, or when physical conditions such as rough air or visibility are a problem. Having an organized system of symbols for plotting information on survey maps can aid the aerial observer. Table 1 is an example of how information can be plotted on maps.

Table 1.—Suggested symbols, with example of how to use them on southern pine beetle flight maps

Source of information	Symbol[1]	Description
Initial aerial survey	20/1 ⊙	New spot with 20 trees and priority 1 for ground check (color indicates the date of flight)
Ground check information	15/3 ●	Spot found to be inactive upon ground check (use to update flight maps before the next flight)
Control information	50/1 ⊕	Spot controlled since last flight (use to update flight maps before the next flight)
Follow-up flight	20/4 ⊖	Previously-seen spot that appears to be inactive from air with bare trees or red crowns, or both, but no yellow crowns.
Follow-up flight	100/1 ⊗ B.O./20	Controlled spot that is observed from the air to have a breakout with 20 active trees
Follow-up flight	100/1	Previously-seen spot undated from 10 to 100 active trees and priority 4 to priorioty 1

[1]Some organizations prefer to use a square symbol (□) to indicate when a spot's location may not be accurately plotted.

when observers are plotting possible southern pine beetle infestations, they may also assign ground checking priorities. These priorities are based on the biotic potential of the spots, value of the resource accessibility, land use objectives and other criteria.

Ground check priorities for a specific area or forest can be indicated by numerical codes such as shown in table 2.

This fact sheet is based on information in Agricultural Handbook Number 560, **An Aerial Observer's Guide to Recognizing and Reporting Southern Pine Beetle Spots**, developed by Ron Billings, Texas Forest Service, and Coleman Doggett, North Carolina Division of Forest Resources. The handbook will be published in the spring of 1980 by the Expanded Southern Pine Beetle Research and Applications Program, USDA Forest Service.

Table 2.—Example for setting ground check priorities from the air, May through October. Choose the spot classification which best describes the spot.

Priority for ground check	Spot classification
Priority 1 (high)	More yellow– than red–crowned trees. In dense, natural pine stand or in area with past history of SPB outbreaks. Easy access or high salvageable volume. In plantation or other high value area. Threat to cross property lines and affect high value stands.
Priority 2 (breakout)	Yellow–crowned trees in spot previously reported controlled or inactive.
Priority 3 (medium)	More red–crowned than yellow–crowned trees. Poor access or moderate salvageable volume.
Priority 4 (low)	Few yellow–crowned trees. Infested pines surrounded by hardwoods or on open land. Difficult to locate on ground because of small size or inaccessibility. In unmerchantable timber or with low salvagable volume.

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